Drilling Large Holes With a Fly-Cutter

By Grant Smith

I have a "fly cutter" with which I have cut holes as large as 6" in 3/4" stock. It is the craftsman version, and I think it was about $15 back ten years ago when I bought it. To be sure, this thing is scary when set at its widest setting, and it could easily grab your sleeve, or even fall apart if it isn't tight. Check it to be sure it is good and tight before starting.

My best results are based on the following procedure:

1. Determine and mark the center of the hole.
2. Set the fly-cutter for the hole size desired, checking it on scrap if it is critical.
3. CLAMP the workpiece to the drill press table well, make sure all adjustment locks are tight.
4. Set the drill press in its lowest speed, make sure the belt is tight (I use this tool in my little 1/3 HP radial arm drill press with little trouble).
5. Begin cutting the hole. To get the maximum life from the cutter, you want a good chip curl coming off the workpiece (with my wimpy drill press, this walks the fine line between stalling the motor, and not cutting when at the larger hole sizes). Too little material removal runs the risk of burning the cutter and ruining it.
6. Don't try to cut constantly. The cutter gets hot and will lose its tempering if you try to go too fast. I usually go maybe an 1/8", then back off and let the cutter air cool.
7. Don't cut all the way through, as the cutter is likely to splinter the workpiece as it emerges. Instead, stop when the pilot bit goes through, and flip the workpiece to finish up.

I have had mine for ten years, have cut holes in everything from plastic to oak, used it probably monthly, and have never had to sharpen the cutter. Sharpening looks easy enough to do with normal stones available in most wood shops, but I just haven't had the need as I am careful to control the feed rate correctly.

The finish of the holes is, IMO, better than the finish of somewhat smaller hole saw holes.

While admittedly dangerous, I have even put this in my hand held drill on occasion to cut odd sized holes here and there. Not recommended, but it does work as long as you make sure you hold on tight.

I should also note that most of these units them allow cutting both inside and outside circles, as the cutter is double ended, and flipping it in the tool changes from one to the other.

All that said, if I had to do a lot of - say more than five or so at a given size - I'd use a router and either a circle cutting jig, or perhaps drill the first hole with a circle cutter and use it to guide the router. Safer, faster, and a slightly better finish.